AMSAT News Service Weekly Bulletins
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AMSAT NEWS SERVICE
ANS-359

ANS is a free, weekly, news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

Please send any amateur satellite news or reports to:

ans-editor@amsat.org

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SB SAT @ AMSAT $ANS-359.01
AO-51 Digipeater function enabled

AMSAT News Service Bulletin 359.01
 From AMSAT HQ SILVER SPRING, MD.
December 25, 2005
To All RADIO AMATEURS
BID: $ANS-359.01

The Digipeater function on AO-51 has been turned on for a "Trial Test Session". The test may be paused at any time. Please keep your digi packets down to a reasonable level as this is a shared resource. Only one uplink is in use, so the PBBS users and digi users are going to be on the same uplink frequency. This is a shared uplink and downlink with the PBBS, so do not overload it with continuous, or high duty rate, beacons or broadcasts.

This is not the 10 watt plus transmitter that is on the ISS. It will take a higher gain receiving station to hear the 9k6 signal of AO-51. You will not need a strong signal for the uplink though, as AO-51 hears very well. Note that the uplink and downlink are both at 9600 baud.

Downlink: 435.300 FM 9600 baud
Uplink: 145.860 FM 9600 baud
Digi Callsign: PACB-1

If you are using TlmEcho there is a bug in the program regarding the Digipeat Status display. That has been fixed in the new version, and a number of new features added as well. A new version of TlmEcho is expected to be released soon.

For the time being, if you monitor the 9k6 downlink you can use the LSTAT status message to verify that the digipeater is turned on. If the message contains "d:1", then the digi function is enabled. If it contains "d:0" the digi is turned off.

Mike, KE4AZN, added, "I want to personally thank Jeff, KB2M, and Gould, WA4SXM, for their help in testing the digipeat function."

[ANS thanks Mike, KE4AZN for the above information]

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SB SAT @ AMSAT $ANS-359.02
OSCAR SKN Next Weekend

AMSAT News Service Bulletin 359.02
From AMSAT HQ SILVER SPRING, MD.
December 25, 2005
To All RADIO AMATEURS
BID: $ANS-359.02

Once again, AMSAT-NA is pleased to sponsor Straight Key Night on OSCAR for enjoyment by all radio amateurs.

OSCAR SKN 2006 will run for 24 hours, 0000-2400 UTC, on 1 January 2006. It's very simple: no rules, no scoring, and no need to send in a log. Just operate CW through any OSCAR satellite using a straight hand key, working as many other SKN participants as you can. Contacts via the moon (OSCAR Zero) count too.

As in past years, all participants are requested to nominate one of the operators they worked for "Best Fist" recognition. Your nominee need not have the best fist of those you heard, just of those you worked.

Please send all nominations to Ray Soifer via w2rs@arrl.net.

A list of those nominated will be published via the AMSAT News Service in early February, and in The AMSAT Journal.

[ANS thanks Ray, W2RS for the above information]

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SB SAT @ AMSAT $ANS-359.03
New Object Identified Near SSETI

AMSAT News Service Bulletin 359.03
From AMSAT HQ SILVER SPRING, MD.
December 25, 2005
To All RADIO AMATEURS
BID: $ANS-359.03

Taft DeVere from Headquarters Airforce Space Command, (HQ AFSPC) reports that the Air Force has discovered a new object that is quite close to the SSETI payload. This new object has been cataloged as 28897. They believe that this object was ejected on 15 Dec 2005 at about 1640Z. Additional tracking data indicates that it is slowly moving away from SSETI. This leads to the conclusion that the object is not a lightweight piece of foil or Mylar type material, since these decay more quickly. It seems that this is likely an object with some mass, and radars report it is quite small.

Below is the two-line element set for the new object.

1 28897U 05043H 05356.70226803 .00000182 00000-0 48118-4 0 58
2 28897 098.1779 252.6230 0017791 005.4499 354.6921 14.59489332 382

The initial speculation is that this new object could be NCube-2
satellite although no postive reception reports have been received yet.

NCube-2's downlink is as follows:

Downlink: 437,305MHz
Bitrate: 9600b/s
Modulation technique: GMSK

The message:
"DE=LA1CUB=NCUBE2=FF=LA1CUB===" is morsed using a 2400Hz tone, 26 words
per minute" where FF is a hex number [00=3,0V - FF=4,5V]

If battery voltage is above 3,8V, every 2 minutes
If battery voltage is below 3,8, every 5 minutes

In the end of the message an unnumbered AX.25 packet is attached
containing
the string:
DE=LA1CUB=NCUBE2=NORWEGIAN CUBESAT - WWW.NCUBE.NO

In the header of the AX.25: Callsign: NCUBE Destination: EARTH

The satellite will transmit at a power of 1.5W at full battery charge

Reception reports will be welcome email to ncube@rocketrange.no and to
missioncontrol@sseti.org

[ANS thanks Taft DeVere HQ AFSPC and Graham, G3VZV for the above
information]

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SB SAT @ AMSAT $ANS-359.04
AMSAT Kid's Day on AO-51

AMSAT News Service Bulletin 359.04
 From AMSAT HQ SILVER SPRING, MD.
December 25, 2005
To All RADIO AMATEURS
BID: $ANS-359.04

AMSAT-NA, the AO-51 Command Team, and the AO-51 Operations Team will
sponsor Kid's Day on AO-51 on January 8, 2006. The event will run from
approximately 0100 utc 8 January until 0345 utc 9 January. The event is
open to all kids, worldwide. We ask all amateur radio stations to give
this short time window to promote satellite operations with kids, by
actually showing a kid how to make contacts via AO-51, providing a
station to contact, or stepping aside to allow others to make contacts
with the kids.

During the event, please limit contacts to stations that are operating
with kids at the microphone. This should allow the kids to have a nice
QSO and pass some information. Kids can tell their name, age, who is
helping them operate on AO-51, where they live, and other information
about themselves.

AO-51 will be configured in the following mode during the event. Please
note the change in the uplink frequency for the event. The PL tone will
be turned off for the event.

Uplink: 145.880 mhz FM voice

Downlink: 435.300 mhz FM voice

The digital transponder on 435.150 will be turned off during the event.

See http://www.arrl.org/FandES/ead/kd-rules.html on the ARRL website for more Kids Day information.

Have fun and enjoy AO-51!

73 KE4AZN
Amsat VP-Operations
Echo Command Station

[ANS thanks Mike KE4AZN for the above information]

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SB SAT @ AMSAT $ANS-359.05
P3E to Fly Software Defined Transponder

AMSAT News Service Bulletin 359.05
 From AMSAT HQ SILVER SPRING, MD.
December 25, 2005
To All RADIO AMATEURS
BID: $ANS-359.05

AMSAT-DL's Board of Directors has made the decision to fly the Software Defined Transponder (SDX) on their Phase 3-Express (P3E) spacecraft. SDX features AMSAT-NA's implementation of the Software Defined Radio based on the Quadrature Sampling Detector. This decision was made at a recent BOD meeting in Marburg, Germany. SDX will utilize space that was originally planned for the Rudak Modem Module (RMU). SDX will allow Karl Meinzer's (DJ4ZC) HELAPS (High Efficiency Linear Amplification by Parametric Synthesis) ideas from his doctoral thesis to be fully implemented for the first time. With the use of the SDX processor, significantly improved linearity and efficiency in the U/V transponder can be achieved compared to the all analog implementations of HELAPS in previous Phase 3 satellites.

Placement of SDX on P3E opens an opportunity to provide an early demonstration of SDX's potential in space, including placement in an orbit that will provide flight time through the radiation belts. This "Phase 1 test" of SDX will in turn provide flight proof of concept that will benefit the later placement of SDX on AMSAT-NA's Eagle-class spacecrafts. It also provides a test platform for evaluation of SDX's weak signal processing that could prove valuable for an eventual Phase 5-A deep space mission that AMSAT-DL is evaluating. Along with improved receiver performance, SDX offers the ability to program configuration changes while in orbit and the integration of uplink and downlink bands via digital connections.

Howard Long, G6LVB of AMSAT-UK, will lead the development of SDX software for both P3E and Eagle. AMSAT-NA's Bob McGwier, N4HY and Frank Brickle, AB2KT, will conduct the integration of SDX with P3-E's HELAPS transmitters. AMSAT-NA's Lyle Johnson KK7P, and Chuck Green, N0ADI, who have served on a number of AMSAT satellite projects, will build the flight hardware.

AMSAT-DL President Peter Guelzow, DB2OS informed Bob McGwier, N4HY AMSAT-NA's VP-Engineering of the Board's decision on November 28. "This is outstanding news" notes Rick Hambly, W2GPS President of AMSAT-NA. "The opportunity to fly SDX on P3-Express will provide an early opportunity to demonstrate the potential of SDX in orbit and gives

AMSAT-NA the benefit of in-orbit testing before placement on the Eagle-class satellites."

At a December meeting in Marburg, Howard, G6LVB demonstrated the functional SDX software on the target DSP processor along with a fully functional STELLA (Satellite Transponder with Equalizing Level Limiting Adapter). STELLA is designed to handle the situation where a User transmits too much power to the satellite adversely impacting the overall transponder AGC levels and thus reducing the output levels of other users on the transponder. STELLA has the ability to dynamically notch an excessive input signal to bring it into compliance with an appropriate output level versus the beacon on that band. Hambly added, "This announcement and the follow on work reinforces the close cooperation between AMSAT-NA, AMSAT-DL and AMSAT-UK as we develop the next generation of high earth orbit amateur radio satellites."

[ANS thanks Peter, DB2OS and Barry, WD4ASW for the above information]

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SB SAT @ AMSAT $ANS-359.06
Eagle Fundraising Appeal

AMSAT News Service Bulletin 359.06
From AMSAT HQ SILVER SPRING, MD.
December 25, 2005
To All RADIO AMATEURS
BID: $ANS-359.06

Have YOU Responded to the Eagle Appeal?

AMSAT-NA members should have received by now an Eagle Appeal Letter from AMSAT-NA President Rick Hambly, W2GPS. The Appeal includes a letter from Rick, a color brochure on Eagle, a donation form, and return envelope. This is the first fundraising effort for Eagle as it is expected to take four years to build and launch the first satellite and three additional years for the second. AMSAT must raise at least $150,000 in 2006 to keep the project on track.

Initial response to the Appeal has been good. SpaceQuest, Ltd. of Fairfax, VA made our first corporate donation to Eagle this past week. Many thanks to Mark Kanawati, N4TPY and Dino Lorenzini, KC4YMG for the strong support! AMSAT members will recall that AO-51 was built by SpaceQuest under AMSAT-NA contract and was launched in June 2004. In addition, 12 individuals have qualified for President's Club status this week as a result of their generosity in response to the Appeal.

AMSAT-NA members who pay US income tax may take a tax deduction from their donation to AMSAT, which is recognized by the Internal Revenue Service as a 501-(c)(3) scientific organization. To qualify as a 2005 tax deduction, the donation must be post marked in 2005 or submitted in 2005. Donations made after January 1, 2006 may be applied against 2006 taxes. AMSAT will gladly accept donations via the AMSAT website using your credit card, the mailing of checks, and PayPal submissions. The AMSAT office will be closed until January 4, 2006, so making donations via telephone will not be possible until after the first of the year. In addition, individuals who may wish to donate securities can do so as well and avoid capital gains on the securities that are donated. Contact AMSAT Treasurer Gunther Meisse, W8GSM for details on how to arrange a transfer to AMSAT. Due to passage of the Katrina Emergency Relief Act of 2005 (KETRA) by Congress, there are additional advantages in giving charitable gifts by December 31, 2005 to

qualified organizations, such as AMSAT. Talk to your financial advisor about how KETRA can provide current income and estate tax advantages.

Your donation and personal support of Eagle is critical. If you haven't made your contribution, please consider making a donation.

Help AMSAT to hatch Eagle!

[ANS thanks Barry, WD4ASW for the above information]

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SB SAT @ AMSAT $ANS-359.07
ARISS Status - 19 December 2005

AMSAT News Service Bulletin 359.07
From AMSAT HQ SILVER SPRING, MD.
December 25, 2005
To All RADIO AMATEURS
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1. California Contact Successful

On Thursday, December 15, five students from Mt. Carmel High School in San Diego, California spoke to Bill McArthur, KC5ACR. Bill answered seventeen of their questions as an audience of approximately 35 students, teachers, and others gathered for the event. The radio equipment used for this contact will remain as the school amateur radio station. The contact audio was webcast by MSNBC, and was available on the IRLP and Echolink nodes. Twenty-two Echolink connections were made from the following countries: France, Iraq, Japan, Korea, Russia, Sweden, Thailand, the U.K., and the U.S.A.

Among the media covering the event were the North County Times, Union Tribune, and Corridor News. Links to two of the stories follow:

"Mt. Carmel High students make contact with the beyond."
http://www.nctimes.com/articles/2005/12/16/news/inland/21_11_4412_15_05.txt

2. 25th Asia-Pacific Scout Jamboree

The 25th Asia-Pacific Scout Jamboree has been approved for Saturday, 31 December 2005 at 0912 UTC. The jamboree is held once every four years with scouts, ages 12-18 and will be held this year from December 28 to January 3 in Sattahip, Chonburi Province in Thailand. The hosting committee expects a turnout of 25,000 participants from the around the world, but especially from the 23 member countries in Asia-Pacific.

3. Article on Canadian School Contact

Ralph McCall School in Airdrie, Alberta, Canada experienced a successful contact with the ISS on Friday, 02 December 2005. An article has been posted to Alberta's Wild Rose Chapter 151 website, which contains photos of the event. See: http://www.qsl.net/ve6afo/iss_contact2005.html

4. Story Covers Sanderson High School Contact

Sanderson High School students spoke with Bill McArthur via amateur radio on December 8. A write up on the contact can be found on the Big Bend Amateur Radio Club website. It includes the audio and photos of the

event. See:
http://www.bigbendarc.com/photos-history/photos/iss/iss_index.html

5. McArthur Continues Voice Contacts

Over the 17-18 December weekend, Bill McArthur, KC5ACR, made contacts with stations in the U.S., Mexico, the Caribbean, Thailand, Japan, Italy, and Portugal. He has already made over 200 general contacts. ARRL covered his activity on the ISS ham radio station in the article, "ISS 12 Commander Shooting for WAC, WAS and Maybe DXCC from Space." See:
http://www.arrl.org/news/stories/2005/12/15/1/?nc=1

6. Russian Special Event Planned

Russian delegate, Sergey Samburov, RV3DR, reports that a special event is being planned for December 25 to commemorate the first anniversary of the death of cosmonaut Gennady Strekalov, U6MIR. Amateur radio operators are invited to participate. It is expected that Korolev and Star City stations will operate shortwave and UHF. Two contacts with the ISS are planned for December 25 and December 26 at 20:00 UTC. On December 26-27 the ISS Ham radio will be placed in repeater mode, and cosmonauts at Energia and Star City may also participate in the activities. Two thousand anniversary QSL cards with Strekalov's portrait have been printed for the event.

7. Educational Outreach/School Selection Committee Meeting Held

The ARISS Educational Outreach/School Selection Committee meeting was held on Thursday, 08 December 2005. Items of discussion included current school contacts, and NEEIS evaluations. The next meeting is planned for 09 February 2006. The minutes have been posted to the ARISS website. See: http://www.rac.ca/ariss/arissschm.htm

[ANS thanks Carol, KB3LKI for the above information]

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office.

73 & Happly Holidays,
This week's ANS Editor,
Lee McLamb, KU4OS
ku4os at amsat dot org